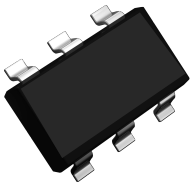
STEIFPOWER TECHNOLOGY

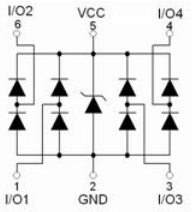
SP**ES5VT236H-6U**
ESD Protection Diode

Features

- Uni-directional ESD protection of four lines
- Low capacitance: 1.0pF(max)
- Low reverse stand−off voltage: 5V
- Low reverse clamping voltage
- Low leakage current



SOT-23-6L



Schematic Diagram

Marking and Pin Assignment

Applications

- Video/Graphics Card
- Digital Visual Interface (DVI)
- USB2.0 Power and Data lines protection
- Notebook and PC Computers
- Monitors and Flat Panel Displays

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

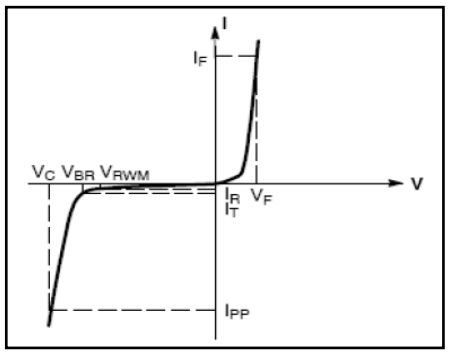
Parameter		Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}(1)	±15	kV
	Contact Model		±8	
JESD22-A114-B ESD Voltage	Per Human Body Model		±16	
ESD Voltage	Machine Model		±0.4	
Peak Pulse Power		P_{PP}(2)	240	W
Peak Pulse Current		I_{PP}(2)	12	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{STG}	-55 to +150	℃

(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

Electrical Parameter

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage
V_F	Forward Voltage@ I_F
I_F	Forward Current



V-I characteristics for a uni-directional TVS

Electrical Characteristics (T_A=25°C unless otherwise specified)

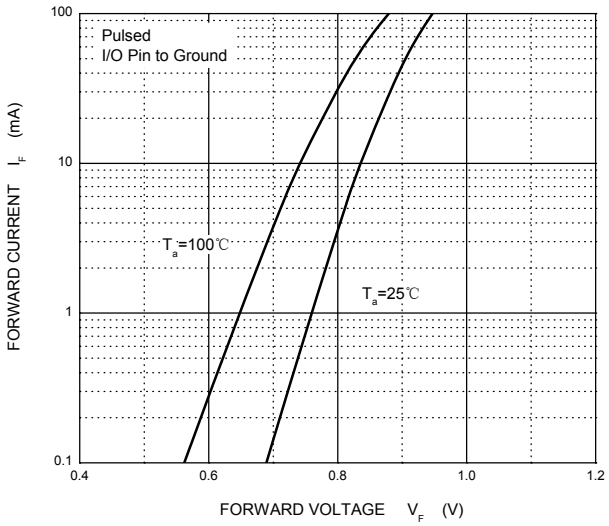
Parameter	Symbol	Test conditions	Min	Max	Unit
Per Channel(I/O to GND unless otherwise specified)					
Reverse Stand-off Voltage	V_{RWM} (1)			5	V
Breakdown Voltage	$V_{(BR)}$	I_T=1mA	5.8	10	V
		I_T=1mA V_{CC} to GND	5.8	10	V
Reverse Leakage Current	I_R	V_{RWM}=5V (I/O to GND & V_{CC} to GND)		5.0	μA
Forward Voltage	V_F	I_F=15mA (I/O to GND & V_{CC} to GND)		1.15	V
Clamping Voltage	V_C (2)	I_{PP}=5A (I/O to GND & V_{CC} to GND)		15	V
		I_{PP}=12A (I/O to GND & V_{CC} to GND)		20	V
Junction Capacitance	C_J	V_R=0V,f=1MHz		2.0	pF
		V_R=0V,f=1MHz, I/O to I/O		1.0	pF

(1).Other voltages available upon request.

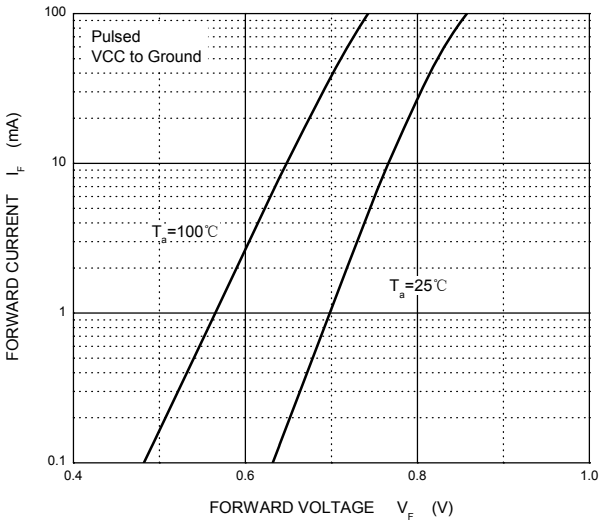
(2).Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

Ratings and Characteristic Curves

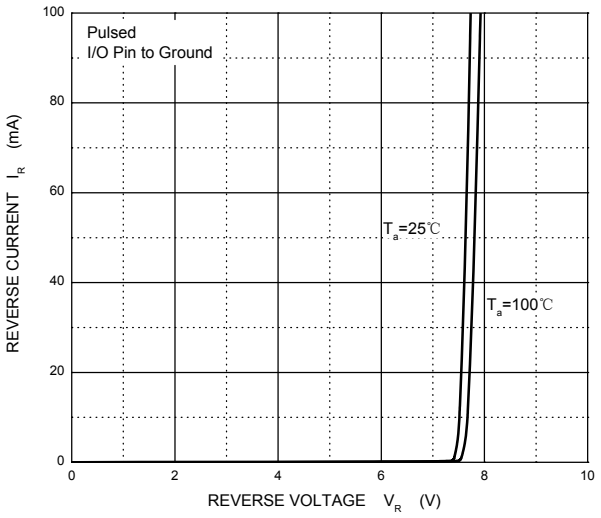
Forward Characteristics



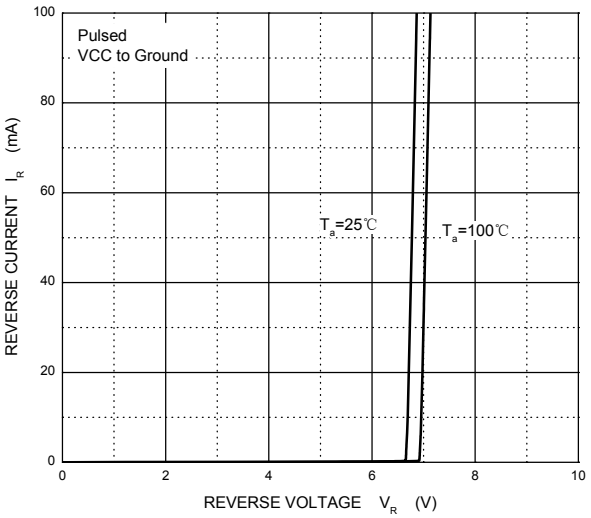
Forward Characteristics



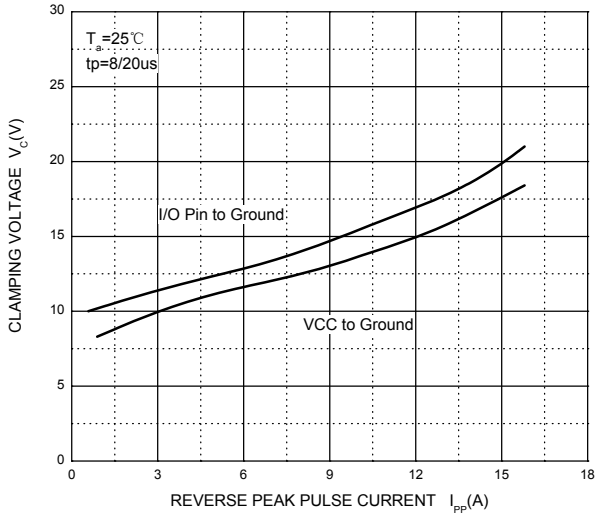
Reverse Characteristics



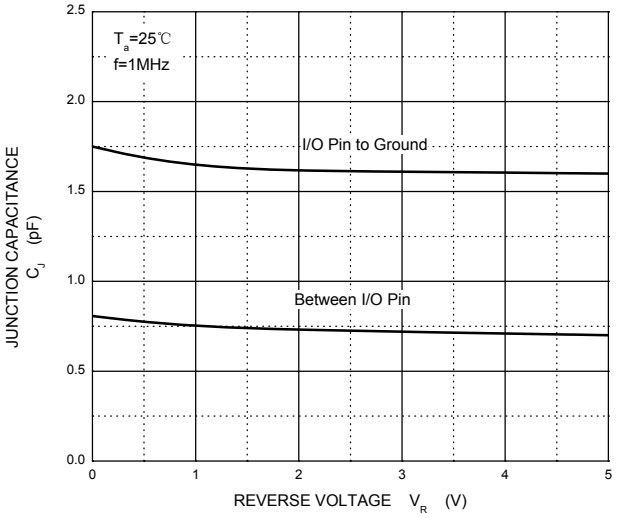
Reverse Characteristics



V_C —— I_{PP}

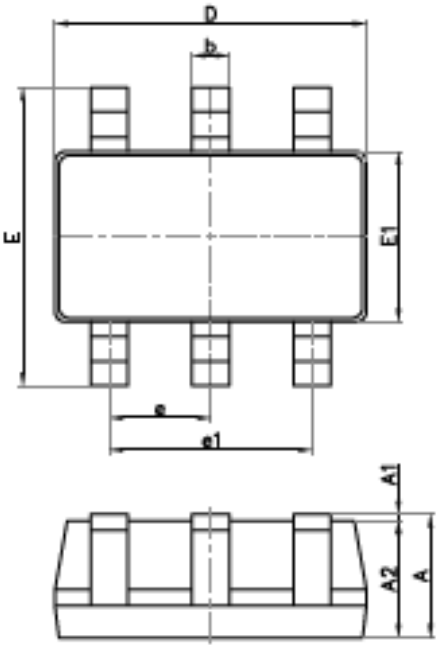


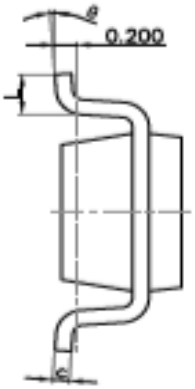
Capacitance Characteristics



Package Outline Dimensions

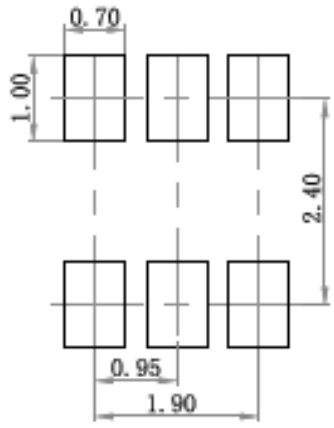
SOT-23-6L





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.